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Any other papers that look into finger thor vs chest tube in out of hospital settings?

This is the one I have so far:

Finger thoracostomy: Significant risks and unproven benefits in prehospital settings
Yael Mozer-Glassberg, Irina Radomislensky, Avi Benov, Ofer Almog
First published: 25 March 2025
https://doi.org/10.1111/trf.18198

Analyzed query, searched for evidence ×2

Several additional papers have examined **finger thoracostomy (FT) versus chest tube (tube thoracostomy) in prehospital and out-of-hospital settings**. Here is a summary of the key studies beyond the Mozer-Glassberg et al. (2025) paper already identified:

Directly Comparative Studies (FT vs. Tube Thoracostomy)

- **Garner et al. (2023)** — A retrospective, multicentre study from three Australian helicopter EMS services (255 patients, 383 procedures over 75 months). This is one of the most directly relevant papers. FT showed **no clear benefit** over tube thoracostomy in reducing overall complication rates (adjusted RR 0.58, 95% CI 0.33–1.03), infection rates (2.7% vs 2.1%), or scene times (56 vs 63 min). Critically, **recurrent tension physiology was significantly more frequent with FT** (13.9% vs 3.2%, $p < 0.001$). The authors recommend tube placement as soon as practicable after decompression.
  European Journ...
- **Harris et al. (2023)** — A retrospective review of 48 patients (64 procedures) comparing prehospital simple thoracostomy (ST) to needle thoracostomy (NT). ST did not improve success rates of ROSC and was associated with **longer on-scene times** (16.8 vs 11.5 min, $p < 0.02$). Overall mortality did not differ. The authors caution against ST in urban

penetrating trauma given the benefit of "scoop and run." American Surg...

FT-Focused Prehospital Studies

- **Hannon et al. (2020)** — A retrospective cohort from an Australian helicopter EMS (103 patients, 179 FT procedures performed by intensive care flight paramedics). FT was associated with a **low rate of major complications** (3 cases). The authors concluded FT should be the preferred approach for chest decompression given the known deficiencies of needle thoracostomy. Emergency Me...
- **Sutori et al. (2025)** — A retrospective analysis of 114 prehospital FT cases in ventilated patients with suspected compensated obstructive shock. FT improved SpO2 from 89.6% to 94.9% ($p < 0.001$) when pneumothorax was present, with **no significant adverse effects** noted. The authors advocate for FT even in compensated shock states. Injury
- **Dickson et al. (2018)** — A retrospective case series of 57 patients with traumatic cardiac arrest who underwent prehospital simple thoracostomy by ground-based EMS paramedics. Pneumothorax was found in 32%, ROSC occurred in 25%, and 7% were discharged neurologically intact. No medic injuries were reported. Emergency Me...

Systematic Reviews

- **Robitaille-Fortin et al. (2021)** — A systematic review of prehospital pneumothorax decompression (20 studies, 2014–2020). Evidence for FT was limited (5 studies), with successful FT reported in only **9.7%–32.0%** of interventions following traumatic cardiac arrest. The overall level of evidence was low. Prehospital and...
- **Sharrock et al. (2021)** — A systematic review specifically of paramedic-performed pleural decompression (19 studies). Complications were lower with FT (4.8%) than NT (13.7%), but mortality was higher in FT cohorts (64.7%–92.9% vs 12.5%–79%), likely reflecting selection bias (FT used more in cardiac arrest). No RCTs were identified. Injury
- **Jodie & Kerstin (2017)** — A best-evidence topic review of 5 papers on prehospital FT, concluding the technique appears **safe and effective when performed by trained physicians**. Emergency Me...

Cadaveric/Experimental

- **Ausman et al. (2026)** — A cadaveric crossover study comparing needle decompression to simple thoracostomy. ST was successful in **92.1%** vs 76.3% for needle decompression (complete relief to 0 mmHg: 60.5% vs 28.9%, $p = 0.004$), and was faster (11.9 vs 34.1 seconds, $p < 0.001$). Prehospital Em...

Position Statements

- The **NAEMSP (2024)** published a position statement and resource document on traumatic pneumothorax care in EMS, addressing the role of needle thoracostomy, simple thoracostomy, and tube thoracostomy, with evidence-based recommendations for prehospital providers. Prehospital Em...

The overall evidence base remains **low quality with no RCTs** directly comparing FT to tube thoracostomy in the field. The key tension in the literature is between FT's simplicity and speed versus the higher rate of recurrent tension physiology when a tube is not placed.

Would you like to explore the NAEMSP position statement recommendations in more detail, or the specific indications and contraindications for each technique in different prehospital contexts (e.g., ground EMS vs. HEMS, military vs. civilian)?

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1. Association Between Three Prehospital Thoracic Decompression Techniques by Physicians and Complications: A Retrospective, Multicentre Study in Adults.
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2. Prehospital Simple Thoracostomy Does Not Improve Patient Outcomes Compared to Needle Thoracostomy in Severely Injured Trauma Patients.
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8. BET 2: Pre-Hospital Finger Thoracostomy in Patients With Chest Trauma.
   Emergency Medicine Journal : EMJ. 2017. Jodie P, Kerstin H.

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   Prehospital Emergency Care. 2026. Ausman JA, Achay JA, Smith VC, Rahm SJ, Bolleter DS. Recent

10. Prehospital Trauma Compendium: Traumatic Pneumothorax Care: Position Statement and Resource Document of NAEMSP.
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Follow-Up Questions

Are there studies comparing outcomes in pediatric versus adult populations for finger thoracostomy? ›

What are the reported complications of chest tube placement in out of hospital settings? ›

Which patient groups benefit most from prehospital finger thoracostomy according to existing literature? ›